This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An integrated amplified telecoil system, comprising:

a telecoil for producing an electrical output signal in response to electromagnetic radiation, said telecoil having an inductance and a resistance;

a first voltage amplifier receiving said electrical output signal and having a first amplifier output producing a first amplified signal, said first voltage amplifier having a high input impedance; and

a first filter having a selected pass band in an audio frequency range integrated into an integrated circuit with said first voltage amplifier, said first filter coupled to said first amplifier output for receiving said first amplified signal and having a first filter output producing a first filtered signal, said first filter setting the frequency response of said integrated telecoil system,

wherein said frequency response of said integrated telecoil system is independent of said inductance and said resistance of said telecoil.

2. (Original) The system of claim 1, further including a second amplifier integrated onto said integrated circuit with said first amplifier and said first filter, said second amplifier receiving said first filter signal and producing a second amplified output signal.

3. (Original) The system of claim 2, wherein said second amplifier is a signal processor.

4. (Original) The system of claim 1, further including a second filter on said integrated circuit and having a pass band different from said selected pass band of said first filter, said second filter receiving said first amplified signal and producing a second filtered signal.

5. (Original) The system of claim 4, further including a third amplifier for receiving said second filtered signal and producing a third amplified output signal.

6. (Original) The system of claim 5, wherein said third amplifier is realized as a signal processor.

7. (Currently Amended) The system of claim 1, wherein said telecoil is a center-tapped telecoil for producing two electrical output signals received by said first voltage amplifier.

8. (Currently Amended) A method of operating a listening device, comprising:

converting in a telecoil electromagnetic radiation to electrical signals;

providing said electrical signals to a high impedance input of a voltage amplifier;

amplifying in said voltage amplifier said electrical signals to produce first amplified signals; and

filtering said first amplified signals in an audio frequency range to produce first filtered signals, wherein said amplifying and said filtering are performed on a single integrated circuit and wherein said filtering includes setting the frequency response of said telecoil in said audio frequency range, said frequency response being independent of the inductance and the resistance of said telecoil.

9. (Original) The method of claim 8, further including amplifying, on said single integrated circuit, said first filtered signals.

10. (Original) The method of claim 9, wherein said amplifying said first filtered signals includes processing said first filtered signals.

11. (Currently Amended) The method of claim 8, further including filtering, on said single integrated circuit, said first amplified signals with a pass band different from the pass band of said first filtering to produce second filtered signals.

12. (Original) The method of claim 11, further including amplifying, on said single integrated circuit, said second filtered signals.

13. (Original) The method of claim 12, wherein said amplifying said second filtered signals includes processing said second filtered signals.

14. (Original) The method of claim 8, wherein said converting is performed by a center-tapped telecoil.

15. (Currently Amended) A telecoil system for a listening device, comprising:

a center-tapped telecoil for producing at least two electrical output signals in response to being exposed to an electromagnetic field; and

an integrated circuit receiving said electrical output signals, said integrated circuit including [[an]] a voltage amplifier providing amplified electrical output signals and a filter for passing selected signals from said amplified electrical output signals, said selected signals being in a range from about 20 Hz to about 10 kHz, said integrated circuit further differentially processing said at least two electrical output signals, wherein said voltage amplifier has a high input impedance, the frequency response of said telecoil system being independent of the inductance and the resistance of said center-tapped telecoil.

16. (Canceled) The telecoil system of claim 15, wherein said telecoil is a center-tapped telecoil producing two electrical signals to be differentially processed by said integrated circuit.

17. (Currently Amended) A telecoil system for a hearing aid, comprising:

a telecoil for producing electrical output signals in response to being exposed to an electromagnetic field, said electrical output signals including an audio frequency signal in an audio frequency range and a non-audio frequency signal; and

an integrated circuit having an amplifier circuit for amplifying said electrical output signal, a first filter for passing said audio frequency signal, and a second filter for passing said non-audio frequency signal, said amplifier circuit including a voltage amplifier, the frequency response of said telecoil system in said audio frequency range being independent of the inductance and the resistance of said telecoil, said

first filter setting said frequency response of said telecoil system in said audio frequency range.

18. (Canceled) The telecoil system of claim 17, wherein said electrical output signals further include a second non-audio frequency signal and said integrated circuit includes a third filter for passing said second non-audio frequency signal.

19. (Original) The telecoil system of claim 17, wherein said telecoil and said amplifier are coupled differentially.

20. (Original) The telecoil system of claim 17, wherein said telecoil and said amplifier are coupled in a single-ended fashion.

21. (Original) The telecoil system of claim 17, further including electrostatic discharge protection circuitry.

22. (Original) The telecoil system of claim 17, further including electromagnetic interference protection circuitry.

23. (Original) The telecoil system of claim 17, further including an analog-to-digital converter for providing a digital output of said audio frequency signal.

24. (Original) The telecoil system of claim 17, further including an analog-to-digital converter for providing a digital output of said non-audio frequency signal.

25. (Currently Amended) The telecoil system of claim 17, ~~further including~~ wherein said amplifier circuit includes a microcontroller for processing said non-audio frequency signal, said microcontroller providing functions for the operation of said hearing aid in response to said non-audio frequency signal.

26. (Original) The telecoil system of claim 17, further including a capacitor connected in parallel with said telecoil for increasing the sensitivity of the telecoil to the non-audio frequency signal.

27. (Original) The telecoil system of claim 17, wherein said telecoil is a center-tapped telecoil producing two electrical signals to be differentially processed by said integrated circuit.

28-43. (Cancelled)

44. (Currently Amended) A method of operating a listening device, comprising:
converting electromagnetic radiation to an analog electrical signal with a telecoil;
receiving said analog electrical signal in an integrated circuit having a voltage amplifier;
amplifying, in said ~~integrated circuit~~ voltage amplifier, said analog electrical signal to develop an amplified analog signal;
converting, in said integrated circuit, said amplified analog signal to a digital signal;
processing, in said integrated circuit, said digital signal into at least two digital outputs, one of said at least two digital outputs being an audio frequency band output, another of said at least two digital outputs being a control band frequency output representative of a frequency above the audio frequency range; and
operating said listening device in a manner corresponding to said control band frequency output.

45. (Cancelled).

46. (Original) The method of claim 44, wherein said converting is by an analog-to-digital converter operating at a high rate to gather high-frequency signals.

47. (Original) The method of claim 46, wherein said rate is about 1 MHz.

48. (Currently Amended) A telecoil system for a listening device, comprising:

a telecoil for producing electrical output signals in response to being exposed to an electromagnetic field, said electrical output signals including an audio frequency signal and a non-audio frequency signal, said telecoil having an inductance and a resistance; and

a hybrid circuit including at least one integrated circuit placed on a common miniature device that fits within a hearing aid, said ~~hybrid~~ integrated circuit having a[[n]] voltage amplifier for amplifying said electrical output signal and at least one filter for passing said audio frequency signal, said at least one filter setting the frequency response of said telecoil system, said frequency response being independent of said inductance and said resistance of said telecoil.

49. (New) The integrated amplified telecoil system of claim 1, wherein said telecoil and said integrated circuit are dimensioned to fit within a hearing aid.